CURRENT LITERATURE.

BOOK REVIEWS.

Plant pathology from a new standpoint.

A RECENT work by Professor H. Marshall Ward[1] places the subject of plant diseases in a new light that must prove very helpful and suggestive to students, as well as to cultivators who are able to read the work understandingly. If every one interested in the cultivation of plants were fairly well informed regarding vegetable physiology and pathology, the work could be said to be a popular treatise, for it is written from the standpoint of the plant and the plant grower, and not, as is usual, from that of the fungus or other disease agent and the mycologist. Moreover, technical terms are employed only where English equivalents are not available, or where obscurity and prolixity are to be avoided.

The work is not a manual of vegetable therapeutics, as may be judged from the fact that only ten pages are devoted to remedies; and it is not a mycological treatise, as it does not describe fungi, but when mentioning them assumes that the reader already knows them. However, it treats of the general nature of disease in plants in a broad and philosophical way. To give a deeper and truer insight into the subject, an introductory part of eighty-five pages reviews the fundamental features of normal physiology and power of adaptation, based upon the very latest researches. It is excellent reading. In this part strong blows are dealt against the persistent ignorance and misconception that falsely exalt chemistry to the first place among the sciences which aid the cultivator, that misconstrue the nature of plant food, that consider the soil an inert substance, and that fix the attention of the cultivator upon the weather and the environment, rather than upon the plant itself. In America these and kindred errors are rapidly being corrected through the influence of the Experiment Stations and Agricultural Colleges, and we have already discarded the use of some terms based upon these errors, notably the misleading word "carbon-assimilation," which the author apparently feels it his duty to cling to for the present.

The body of the book deals with such topics as health and disease, life and death, causes, nature, and symptoms of disease, the factors of an epidemic, relation of variation to disease, grafts, wounds, excrescences, exudations, and monstrosities. These and similar topics are treated with a directness

[1] WARD, H. MARSHALL, Disease in plants. 12mo, pp. xiv + 309. London: The Macmillan Company, 1901.

and depth that can be very imperfectly suggested in a brief review. No class of readers will get so much profit and satisfaction from the work as those who desire to know the latest word that science has to offer in explanation of the causes and principles underlying the phenomena of plant activity in both health and disease, and who desire the information presented in a luminous, concise manner, and so far as possible, in untechnical language.

When the point of view of the author becomes the prevalent point of view both of the public and the investigator, great advantage will accrue to all who deal with plants, and this work should be an important factor in hastening the time.—J. C. ARTHUR.

The Cyclopedia of American horticulture.

THE fourth and last volume of Bailey's *Cyclopedia of American horticulture* has just appeared.[2] The scope and quality of this great work have been spoken of in reviews of the preceding volumes.[3] The editor hopes that this Cyclopedia will never be revised, "for it is the purpose of the book to make a record of North American horticulture as it exists at the opening of the twentieth century." It is expected that subsequent progress will be recorded in a series of supplements with cumulative indexes, the manuscript for the first two of which is already prepared. Numerous important genera are presented in the usual way, notable among which are *Rosa*, *Rubus*, *Salix*, *Saxifraga*, *Sedum*, *Selaginella*, *Spiraea*, *Tulipa*, *Vitis*. These and other genera are all treated in the usual way, the synoptical keys of the cultural species being followed by descriptions of treatment, regions of cultivation, etc. The treatment of roses is especially noteworthy, the editor venturing the opinion that this subject will probably be consulted oftener than any other in the Cyclopedia. In order to make it worthy of such a place the treatment is particularly full. After the usual scientific synopsis, including fifty species, the horticultural classification is presented, followed by a discussion of the treatment of roses, their adaptation to different regions and all other points of view that might be of interest to those cultivating roses. Perhaps the most notable articles dealing with fruits are those upon the strawberry and tomato.

Aside from such papers there are noteworthy articles upon *Railroad gardening*, *Rock gardens*, *Seedage*, *Spraying*, and *Storage*. By the name *Seedage* the editor refers to the propagation of plants by seeds and spores, and after the general treatment there is a section upon *Seed breeding* by W. W. Tracy, and one upon *Seed testing* by G. H. Hicks. Under the general title

[2] BAILEY, L. H., Cyclopedia of American horticulture, etc. Vol. IV. R–Z. 4to, pp. xxx + 1487–2016, *figs. 2060–2800*, *pls. 32–50*. New York: The Macmillan Company. 1902. $5.

[3] BOT. GAZ. **29**: 282; **30**: 277; **31**: 436.